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Plan and maintenance
CSC6301 Project 5

Planning and maintenance

Change to the data structures in MyLinkedList.java :

In the previous project, MyLinkedList.java used the LinkedList from the java collection framework, and was allowing the user to add and remove items from both the front and the back.

However, since the Stack follows Last in First Out the implementation will be changed to reflect that behavior.

The user will not be able to remove from the front or add to the front.

Reflected change :

- MyLinkedList.java will be renamed to MyStack.java.
- The documentation will be updated accordingly.
- The stack will now be private, with a getter method for controlled access

Addressing last week error :

A major issue in the last project resulted in a `java.lang.IllegalAccessError`, where Main attempted to access the protected variable `unsortedLinkedList` in MyLinkedList.java.

Unfortunately I could not reproduce the error following the readMe for compilation.

To address and prevent this issue the following measures will be implemented :

- The stack will be private and a getter method will be introduced to retrieve it.
- The Readme will be updated to provide clear instructions on compilation and execution
- A jar file will be added to avoid compilation issues.

Change to the Sorting class sortedLinkedList.java

The file will be renamed to SortStack.java and will use a stack from the java collection and also sort in ascending order using a sorting method from the collection. It will not directly modify the unsorted stack from the Mystack.java, but instead it will make a copy and return the sorted version.

The documentation will also be updated to reflect the change. It will also retain the encapsulation and still follow the single responsibility principle.

Changes to MenuOptionsDisplay.java

The menu option will mostly stay the same, but will remove the option to add and remove from the beginning to reflect the change made in MyStack.java.

The documentation will mostly stay the same.

Changes to Main.java

The main class will remove the option to add and remove from the beginning in the Switch statement. It will adapt to the Stack behavior.

To display the unordered and ordered list of numbers the getter method will be used instead of a direct access.

Most of the code will be reused.

Other changes : The readMe will now include the option to run the jar file, and the UML diagram will be updated to replace the LinkedList by the Stack.